

**Notice of Allowability**

Application No.

10/026,637

Examiner

ARMANDO RODRIGUEZ

Applicant(s)

KOYAMA ET AL.

Art Unit

2828

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed August 27, 2004.
2. ☒ The allowed claim(s) is/are 1-10 and 13-23.
3. ☒ The drawings filed on 27 December 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

## **DETAILED ACTION**

### ***Response to Amendment***

Claims 1-10 and 13-23 are pending.

Claims 11,12 and 24-26 have been canceled.

The 35 USC 112 second paragraph rejection of claim 13 has been withdrawn based on applicant's amendment filed on August 27, 2004.

The 35 USC 102 rejection of claims 1,6-9,13 have been withdrawn based on applicant's amendment filed on August 27, 2004.

The 35 USC 103 rejection of claims 2-5,10,14 and 15 have been withdrawn based on applicant's amendment filed on August 27, 2004.

Claims 16-23 have been previously allowed in office action mailed on April 29, 2004.

### ***Response to Arguments***

Applicant's arguments, see pages 6 and 7, filed August 27, 2004, with respect to claims 1-10,13-15 have been fully considered and are persuasive. The rejection of claims 1-10,13-15 has been withdrawn.

### ***Allowable Subject Matter***

Claims 1-10 and 13-23 are allowed.

The following is an examiner's statement of reasons for allowance:

After reviewing applicant's amendment, arguments and conducting an updated search none of the cited prior arts alone or in combination discloses the surface emitting semiconductor laser having the recited limitations of independent claims 1 and 16.

Regarding claims 1-10,13-15,

None of recited prior arts discloses the claimed laser having the limitations of independent claim 1 with an active layer between a first and second reflection layer, where a light emitting region is formed on the first reflection layer and in particular the light emitting region including a boundary region for suppressing oscillation modes, except for a specific oscillation mode, where the boundary region introduces an optical loss and including a plurality of divided regions which are substantially divided by the boundary region to produce a light emitting spot corresponding to the specific oscillation mode.

Regarding claims 16-23,

None of recited prior arts discloses the claimed laser having the limitations of independent claim 16 with an active layer between a first and second reflection layer, where a light emitting region is formed on the first reflection layer, where the light emitting region includes a plurality of divided regions for producing light emitting spots corresponding to a specific oscillation mode and in particular the media of the surface layer of the light emitting surfaces having different refractive indices so that the light emitting spots have the same phase.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

**Conclusion**

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to ARMANDO RODRIGUEZ whose telephone number is 571-272-1952. The examiner can normally be reached on 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MINSUN HARVEY can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
ARMANDO RODRIGUEZ  
Examiner  
Art Unit 2828

  
MINSUN HARVEY  
SUPERVISOR  
Art Unit 2828

AR/MH